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(71) Applicant *(for all designated States except US)*: **THE REGENTS OF THE UNIVERSITY OF CALIFORNIA** [US/US]; 1111 Franklin Street, Oakland, CA 94607-5200 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **SAILOR, Michael, J.** [US/US]; 3303 Caminito Eastbluff, Unit 178, La Jolla, CA 92037 (US). **TROGLER, William, C.** [US/US]; 2460 Cordero Road, Del Mar, CA 92014 (US). **SOHN, Honglae** [KR/KR]; 357 Seosuk-dong, Kwangju 501-759 (KR). **TOAL, Sarah, J.** [US/US]; 4067 B Miramar St., La Jolla, CA 92037 (US).

(74) Agents: **FALLON, Steven, P.** et al.; Greer, Burns & Crain, Ltd., Suite 2500, 300 S. Wacker Drive, Chicago, IL 60606 (US).

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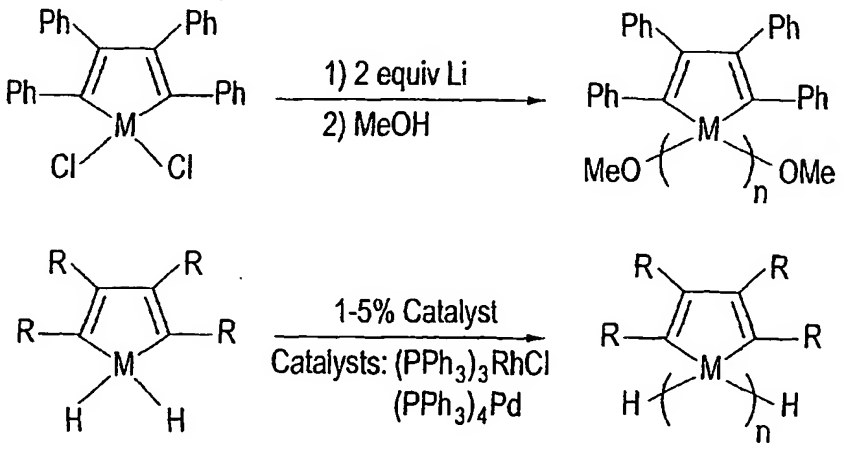
(54) Title: SYNTHESIS AND USE OF INORGANIC POLYMER SENSOR FOR DETECTING NITROAROMATIC COMPOUNDS



where R is a H or an alkyl or aryl group selected from the group consisting of Me or Ph; and where M is selected from the group consisting of Si and Ge

(57) Abstract: A dehydrocoupling polycondensation method for synthesizing polymetalloles including obtaining a dihydrometallole that includes silicon or germanium atoms, designating a reducing agent for preparation of dihydrometallole monomer, measuring a predetermined molar percentage of the reducing agent corresponding to a molar amount of the dihydrometallole, selecting a catalyst, and reacting the catalyst with the dihydrometallole to obtain a polymetallole. A method for detecting an analyte that may be present in ambient air or complex aqueous media including providing a polymer or copolymer containing a metalloid-metalloid backbone, exposing the polymer or copolymer to a suspected analyte or a system suspected of including the analyte, and measuring a quenching of photoluminescence of the metallole polymer or copolymer exposed to the system.

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